

CONFIDENTIAL

10 June 1955

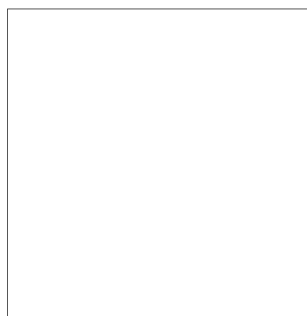
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MEMORANDUM FOR: THE RECORD

SUBJECT : Concrete Drilling Problem

1. Time and Place of Meeting: The meeting was held in Room 2106, Barton Hall, on 10 June 1955.

2. Attendance:



- TSS/CD
- TSS/CD
- TSS/ED
- TSS/ED
- TSS/TSL
- TSS/ASD
- TSS/ASD
- TSS/ASD
- TSS/APD

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3. Purpose of Meeting: [redacted] arranged the meeting so that each division could present what information they had obtained relating to the concrete drilling problem; what ideas were being considered or being worked on, and some of the problems involved.

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4. Discussion:

a. [redacted] TSS/ED, related that they were continuing their work on the pipe pusher project and utilizing the information received by APD from NBS about diamond core drills. This information has also been given to one of their contractors, who will conduct noise and drilling tests on diamond core drills.

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b. [redacted] TSS/APD, reported that the outlook for an ultra sonic drill for concrete drilling did not look too feasible, based on information received from NBS and certain contractors. APD, however, has obtained some information on an ultra sonic gauge which appears practicable for the measurement of the thickness of cement walls. This instrument would give relative measurements instead of absolute measurements. NBS has shown interest in testing an instrument of this type.

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c. [redacted] TSL, discussed the possibility of using drilling muds as a buffer in cement drilling. Their purpose would be two-fold - to act as a lubricant and to reduce the grinding and vibration noise of the drilling operation. His department was also considering the ideas brought forth by the other divisions, plus the use of some sort of a fluid coupling device.

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d. [] TSS/ED, suggested the use of a pin up gun to fire a rod into the wall, which in turn, could be easily removed. He also suggested the use of a shaped charge of aluminum and plaster of Paris in cube form. It is now used to cut steel and might be useable against cement in that the heat released would calcinate the cement and the explosive force, directed in the horizontal direction, would remove the cement.

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e. [] TSS/CD, reported on the use of an aluminum torch to calcinate cement, making it easier to drill. He also reported on the use of certain inorganic chemicals. These chemicals, (NaCO₃ and other inorganic combinations) when applied to cement and heated, cause the cement to either swell and break apart or to crumble or disintegrate.

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f. [] TSS/CD, reported that he is working on the problem of wall measurement by the use of backscattering of gamma rays.

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g. [] TSS/ASD, reviewed the problem and related past field operations to it.

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h. TSS/OPS had requested that samples of various walls be sent in from the field and some are now arriving. It is believed that they will be located at [].

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5. Actions: It was decided that the next meeting would be at 1100, 29 June 1955 in room 2106, Barton Hall. It was requested that all divisions again report on their progress and problems.

[]
TSS/APD

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